REMARKS/ARGUMENTS

By this paper, Claims 43-57, 59, 61, 63-74, 83, 84, and 89-102 are pending in the application, of which claims 43, 64, and 89 are the pending independent claims. Claims 43, 48, 51, 54-57, 59, 61, 63, 64, 69, 72, 83, 84, 89, and 94-102 are amended herein and claims 58, 60, and 62 are newly canceled herein. Claims 1-42, 75-82, and 85-88 were previously canceled. No new matter is believed to have been introduced to the application by this amendment. Reconsideration and further examination are respectfully requested.

Claim Rejections - 35 USC §102

Claims 43 and 89 are rejected under 35 U.S.C. 102(b) as being anticipated by Poon (U.S. Pat. No. 5,328,553).

Amended independent claim 43 is directed to a chip structure comprising a silicon substrate, a resistor in said silicon substrate, wherein said resistor comprises silicon with a dopant, a MOS device comprising a portion in said silicon substrate, a metallization structure over said silicon substrate, wherein said metallization structure comprises a first metal layer and a second metal layer over said first metal layer, a first dielectric layer between said first and second metal layers, a passivation layer over said metallization structure and said first dielectric layer, wherein a first opening in said passivation layer is over a first contact point of a first metal interconnect of said metallization structure, and said first contact point is at a bottom of said first opening, wherein a second opening in said passivation layer is over a second contact point of a second metal interconnect of said metallization structure, and said second contact point is at a bottom of said second opening, wherein a third opening in said passivation layer is over a third contact point of a third metal interconnect of said metallization structure, and said third contact point is at a bottom of said third opening, wherein said first contact point is connected to said third contact point through said resistor, wherein said passivation layer comprises a nitride layer, and a third metal layer over said passivation layer and on said first, second and third contact points, wherein said first contact point is connected to said second contact point through a first portion of said third metal layer, wherein said third metal layer comprises a second portion connected to said first portion of said third metal layer through, in sequence, said third contact point, said resistor and said first contact point.

Amended independent claim 89 is directed to a chip structure comprising a silicon substrate, a resistor in said silicon substrate, wherein said resistor comprises silicon with a dopant, a MOS device comprising a portion in said silicon substrate, a metallization structure over said silicon substrate, wherein said metallization structure comprises a first metal layer and a second metal layer over said first metal layer, a dielectric layer between said first and second metal layers, a separating layer over said metallization structure and said dielectric layer, wherein a first opening in said separating layer is over a first contact point of a first metal interconnect of said metallization structure, and said first contact point is at a bottom of said first opening, and wherein a second opening in said separating layer is over a second contact point of a second metal interconnect of said metallization structure, and said second contact point is at a bottom of said second opening, wherein said first contact point is connected to said second contact point through said resistor, wherein said separating layer comprises a nitride layer, a third metal layer over said separating layer and on said first and second contact points, wherein said third metal layer comprises a first portion connected to a second portion of said third metal layer through, in sequence, said first contact point, said resistor and said second contact point, wherein said third metal layer comprises a copper layer, and a first polymer layer covering a top surface and sidewall of said first portion of said third metal layer.

Poon generally relates to "*a method for fabricating a semiconductor device having a planar surface.*" See Poon, col. 2, ll. 19-20. Poon discloses "*metal layer 42 is deposited overlying the surface of planarizing layer 38 and within via openings 40.*" See Poon, col. 6, ll. 10-11. However, Poon fails to disclose a third metal layer that "comprises a second portion connected to said first portion of said third metal layer through, in sequence, said third contact point, said resistor and said first contact point," as recited in amended independent claim 43, or a third metal layer that "comprises a first portion connected to a second portion of said third metal layer through, in sequence, said first contact point, said resistor and said second contact point," as recited in amended independent claim 89.

Anticipation requires that "each element of the claim at issue is found, either expressly described or under the principles of inherency, in a single prior art reference or that the claimed invention was previously known or embodied in a single prior art device or practice." Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 771 (Fed. Cir. 1983). See MEHL/Biophile Int'l Corp. v

Milgraum, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (to anticipate, a single reference must teach every limitation of the claimed invention; any limitation not explicitly taught must be inherently taught and would be so understood by a person experienced in the field); In re Baxter Travenol Labs., 952 F.2d 388, 390 (Fed. Cir. 1991) (the dispositive question is "whether one skilled in the art would reasonably understand or infer" that a reference teaches or discloses all of the elements of the claimed invention); Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268-69 (Fed. Cir. 1991) (to anticipate, every element of the claims must appear in a single prior art reference, or if not expressly shown, then demonstrated to be known to persons experienced in the field of technology); In re Samour, 571 F.2d 559, 562 (CCPA 1978) (the key question is whether a single prior art reference "publicly discloses every material element of the claimed subject matter").

It is respectfully submitted that the Office Action has failed to establish that Poon meets this high burden. In particular, the Office Action has failed to establish that Poon anticipates at least a third metal layer that "comprises a second portion connected to said first portion of said third metal layer through, in sequence, said third contact point, said resistor and said first contact point," as recited in amended independent claim 43, or a third metal layer that "comprises a first portion connected to a second portion of said third metal layer through, in sequence, said first contact point, said resistor and said second contact point," as recited in amended independent claim 89 of the present application.

For at least these reasons, Applicant respectfully submits that amended independent claims 43 and 89 are patentable over Poon. Reconsideration and withdrawal of the rejection of independent claims 43 and 89 are respectfully requested.

Claim Rejections - 35 USC §103

Claims 54-59 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Poon in view of Erdeljac et al. (U.S. Pat. No. 6,236,101, hereinafter "Erdeljac"). Applicant respectfully notes that there appears to be a typographical error in regards to the Office Action's citation of Erdeljac. For the sake of expedited prosecution, Applicant will presume herein that the Office Action intended to reference the citation of Erdeljac listed on the PTO-892 form issued June 27, 2008, U.S. Patent 6,236,101 (first listed inventor John P. Erdeljac), not the citation listed on the Office Action, U.S. Patent 6,235,101 (first listed inventor Takahiko Kurosawa). Claims 64, 60-

63, 69-74, 83-84 and 100-102 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Poon in view of Sasagawa et al. (U.S. Pat. No. 6,486,530, hereinafter "Sasagawa"), and further in view of Erdeljac. Claims 48-53, 69-75, and 94-99 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Poon in view of Sasagawa, and further in view of Lin et al. (U.S. Pat. No. 6,495,442, hereinafter "Lin"). Claims 44-46, 65-67, and 90-92 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Poon in view of Sasagawa, and further in view of Leidy (U.S. Pub. No. 2003/0155570). Claims 45, 47, 66, 68, 91, and 93 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Poon in view of Sasagawa, and further in view of Simila (U.S. Pub. No. 2003/0183332).

Amended independent claim 64 is directed to a chip structure comprising a silicon substrate, a resistor in said silicon substrate, wherein said resistor comprises silicon with a dopant, a MOS device comprising a portion in said silicon substrate, a metallization structure over said silicon substrate, wherein said metallization structure comprises a first metal layer and a second metal layer over said first metal layer, a dielectric layer between said first and second metal layers, a nitride layer over said metallization structure and said dielectric layer, wherein a first opening in said nitride layer is over a first contact point of a first metal interconnect of said metallization structure, and said first contact point is at a bottom of said first opening, and wherein a second opening in said nitride layer is over a second contact point of a second metal interconnect of said metallization structure, and said second contact point is at a bottom of said second opening, wherein said first contact point is connected to said second contact point through said resistor, wherein said nitride layer has a thickness greater than 0.35 micrometers, and a third metal layer over said nitride layer and on said first and second contact points, wherein said third metal layer comprises a first portion connected to a second portion of said third metal layer through, in sequence, said first contact point, said resistor and said second contact point, wherein said third metal layer comprises a copper layer.

As previously discussed, Poon fails to disclose a third metal layer that "comprises a first portion connected to a second portion of said third metal layer through, in sequence, said first contact point, said resistor and said second contact point," as recited in amended independent claim 64. Sasagawa and Erdeljac fail to cure this deficiency of Poon, and the Office Action does not assert that Sasagawa and Erdeljac cures this deficiency of Poon.

Sasagawa generally relates to "*fabricating anodized capacitors and high temperature capacitors on the same device.*" See Sasagawa, col. 2, ll. 22-23. Sasagawa discloses "*adhesion layer 109 and the copper seed layer 110 are used as an adhesion layer between the organic polymer 108 and the final conductive metal layer 111.*" See Sasagawa, col. 4, ll. 16-18. However, Sasagawa fails to disclose a third metal layer that "comprises a first portion connected to a second portion of said third metal layer through, in sequence, said first contact point, said resistor and said second contact point," as recited in amended independent claim 64.

Erdeljac generally relates to "*formation of an integrated inductor and an integrated capacitor using a thick copper layer on the outside of the protective overcoat.*" See Erdeljac, col. 1, ll. 48-50. Erdeljac discloses "*a thick layer of copper is electrolytically grown to a thickness...copper metal top forms the top electrode for the high-Q capacitor...and also forms the metal-top inductor.*" See Erdeljac, col. 6, ll. 62-67. However, Erdeljac fails to disclose a third metal layer that "comprises a first portion connected to a second portion of said third metal layer through, in sequence, said first contact point, said resistor and said second contact point," as recited in amended independent claim 64.

Poon, Sasagawa, and Erdeljac, alone or in combination, fail to teach or suggest all of the elements of amended independent claim 64. Accordingly, amended independent claim 64 is believed to be allowable over Poon in view of Sasagawa, and further in view of Erdeljac. Reconsideration and withdrawal of the rejection of independent claim 64 are respectfully requested.

The Office Action does not assert that the remaining references cure these deficiencies of Poon, Sasagawa, and Erdeljac. The other claims currently under consideration in the application are dependent from their respective independent claims discussed above and therefore are believed to be allowable over the applied references for at least similar reasons. Because each dependent claim is deemed to define an additional aspect of the invention, the individual consideration of each on its own merits is respectfully requested.

The absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be other reasons for patentability of any

or all claims that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation.

CONCLUSION

In view of the Amendments and Remarks herein, Applicant submits that the claims are in condition for allowance and respectfully request a notice to this effect. Should the Examiner have any questions, please call the undersigned at the phone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,
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